REMARKS

Claims 1 – 4, 7-19 and 21-38 are pending in the application.

Claim Rejections – 35 USC 103

In this section of the official action, Claims 1 – 4, 7 – 19 and 21-38 were rejected under 35 USC 103(a) as being unpatentable over Ferrel et al U.S. Patent No. 6,119,082 in light of Fitzsimons et al U.S. Patent No. 6,708,189. Favorable reconsideration of this rejection is respectfully requested since, as will be shown below, the above amended claims are both novel and inventive over the prior art cited by the Examiner.

The present embodiments relate to a system which *automatically* carries out *intelligent structure analysis* of document structure in order to understand the separate parts of a document and the internal structures of those parts. The system is then used to parse documents, use a marking system to mark the structure on the documents and then use the marking to republish the original document in a second format. Typically the original document is divided into pages, articles, pictures, pictures with articles, articles with headlines, articles with headlines and a by line, articles with headlines, by line, a picture, and the like. The document could be a newspaper, a company financial report, or any kind of structured document. The final published format is an interactive document, typically for use as a web page. The automatic parsing of the present embodiments allows the structural subunits, the blocks, of the original document to be the interactive objects of the web page. Thus a particular block, comprising a headline, by line, text and a photograph, is identified automatically as belonging together. The block is defined as a single object, and the text etc as internal

structure thereof. The parser classifies the headline using an XML label, the by line likewise, the text likewise and the picture likewise, and then the publisher knows that the entire object should be presented visually as it appears in the original newspaper page. However it also knows how to set up the headline as a hypertext link to lead to a larger size version of the full text so that the text can be read. Likewise it knows how to set up the picture as a link that can be clicked on to lead to a larger view of the picture. The by-line may be treated separately to provide a link to other articles by the same author. The result is a fully interactive version of the original document.

In summary the interactive version of a multi-element document is automatically arrived at by reverse engineering (parsing) of the original document, leading to XML labeling of the document parts to represent blocks and internal structure of the blocks, the labeling used as directions by a publisher to publish an interactive version of the document.

Ferrel teaches the idea of a multimedia publishing system which separates the contents and design aspects of the publishing process, for facilitating efficient distribution of the published documents thus minimizing the transmission of data in a bandwidth limited networked environment. Ferrel describes in line 7, col. 5: "Efficient distribution is achieved by separating the content and the design which enables transmission of high-quality titles over low-speed communication links subject to loss of connectivity".

Fitzsimons, as described in the field of invention section, relates to exchanging different format files between computers. Fitzsimons introduces a system for converting the files format, as described in line 60, col. 2: "The system functions to

convert a data file created under a first format into a corresponding data file under a second format".

Neither citations teaches or even hints at an idea which comprises *automatically* analyzing *an existing publication,* such as a newspaper or a microfiche carried document, in such a reverse engineering process, in order to understand the separate parts of a document and the internal structures of those parts, as taught by the present invention.

Claim 1 defines a method for *automatically* publishing data in a final publication format, wherein the data is in the form of a newspaper having a plurality of pages, each page having a *predetermined* layout comprising a plurality of independently standing data blocks, each block having an internal structure, the method comprising: *automatically analyzing* the data to decompose the layout of each page of the newspaper into the plurality of blocks, each block representing an object, converting each object to an internal publication format, the format identifying the internal structure, and rendering the internal publication format to incorporate the objects and respective internal structures in the final publication format.

As explained above, and defined by claim 1, the present invention introduces the novel and inventive idea of a method where an existing publication, such as a newspaper is automatically analyzed, in order to understand the separate parts of the published document and the internal structures of those parts, as described in 24, page 11: "Next, XML distiller module 18 preferably performs *intelligent structure analysis,* in order to be able to recognize and define the structures and objects contained in the newspaper data, particularly with regard to each page of the newspaper. Examples of

such structures and objects include, but are not limited to, articles, advertisements, titles, and so forth".

In contrast, Ferrel teaches a publication system wherein *the publication process*, carried out for the *initial generation* of the published document, is divided into a content aspect and a design aspect. However, Ferrel never suggests or even hints at the idea of *automatically analyzing* the data to decompose the layout of each page of an already generated newspaper into the plurality of blocks, each block representing an object, converting each object to an internal publication format, the format identifying the internal structure, in such a reverse engineering process as taught by the present invention. Thus Ferrel deals with a totally different problem than the present invention and teaches a different solution than the present application. Fitzsimons also falls short of teaching or event hinting at such a method for automatically publishing data in a final publication format, wherein the data is in the form of a newspaper having a plurality of pages, as taught by the present invention. It is thus respectfully believed that claim 1 is both novel and inventive over the prior art, and maintained that claim 1 is allowable.

Claim 19 defines a system for *automatically* publishing newspaper data in a computerized format, the system comprising: at least one source of newspaper data in a digital format, the newspaper format comprising a plurality of pages, each page having a *predetermined* layout comprising a plurality of independently standing data blocks, each block having an internal structure, a mark-up language distiller module for converting the data from said digital format to a mark-up language format, wherein said mark-up language distiller module *automatically analyzes* the newspaper data to decompose the newspaper data into said plurality of blocks, each block with

said internal structure representing an independent data object, each object having content and at least one attribute of the data, such that each object is converted to said mark-up language format; and a publisher server for converting the data from said mark-up language format to a final publication format, said final publication format incorporating said blocks with the structure as objects.

As explained above, and defined by claim 19, the present invention introduces the novel and inventive idea of a system where an existing publication, such as a newspaper is *automatically* analyzed, by a mark-up language distiller module, in order to understand the separate parts of the published document and the internal structures of those parts.

Ferrel, as described above, teaches a publication system wherein *the publication process*, carried out for the *initial generation* of the published document, is divided into a content aspect and a design aspect. However, Ferrel never suggests or even hints at the idea of *automatically analyzing* the data to decompose the layout of each page of the newspaper into the plurality of blocks, each block representing an object, converting each object to an internal publication format, the format identifying the internal structure, as taught by the present invention.

Fitzsimons also falls short of teaching or event hinting at such a system for automatically publishing data in a final publication format, as taught by the present invention.

It is thus respectfully believed that claim 19 is both novel and inventive over the prior art, and maintained that claim 19 is allowable.

Claim 23 defines a method for *automatically* publishing data in a final publication format, the data comprising a plurality of pages, each page having a *predetermined*

layout comprising a plurality of independently standing data blocks, each block having an internal structure the method comprising: *automatically analyzing* the data to decompose the data into a plurality of objects, each object corresponding to one of the blocks, preparing a list of text and/or graphic elements for each object; determining properties of each element, including determining visibility and overlap characteristics for each graphic element within the object, recognizing structural layout properties of the data in an original format, converting each object to an internal publication format, and rendering the internal publication format in the final publication format, the final publication format presenting the blocks as the independently standing objects incorporating the internal structure.

As explained above, and defined by claim 23, the present invention introduces the novel and inventive idea of a method for *automatically* publishing where *an existing* multiple paged document, is *automatically* analyzed, in order to understand the separate blocks of the document, thus decomposing the data into a plurality of objects, each object corresponding to one of the blocks.

Ferrel, as described above, teaches a publication system wherein *the publication process*, carried out for the *initial generation* of the published document, is divided into a content aspect and a design aspect. However, Ferrel never suggests or even hints at the idea of *automatically analyzing* the data to decompose the layout of each page of the document into the plurality of blocks, as taught by the present invention. Fitzsimons also falls short of teaching or event hinting at such a system for automatically publishing data in a final publication format, as taught by the present invention.

It is thus respectfully believed that claim 23 is both novel and inventive over the prior art, and maintained that claim 23 is allowable.

Claim 24 defines a method for *automatically* publishing data in a final publication format, the data comprising a plurality of pages, each page having a *predetermined* layout comprising a plurality of independently standing data blocks, the method comprising:

automatically analyzing the data to decompose the data into a plurality of objects, the objects corresponding to the blocks, preparing a list of text and/or graphic elements for each object, determining properties of each element, including determining a special characteristic for each text element, recognizing structural layout properties of the data in an original format, converting each object to an internal publication format, and rendering the internal publication format in the final publication format such as to include the recognized structure in the objects.

As explained above, and defined by claim 24, the present invention introduces the novel and inventive idea of a method for *automatically* publishing where *an existing* multiple paged data, is *automatically* analyzed, in order to understand the separate blocks of the data, thus decomposing the data into a plurality of objects, each object corresponding to one of the blocks.

Ferrel, as described above, teaches a publication system wherein *the publication process*, carried out for the *initial generation* of the published document, is divided into a content aspect and a design aspect. However, Ferrel never suggests or even hints at the idea of *automatically analyzing* the data to decompose the layout of each page of the data into the plurality of blocks, as taught by the present invention. Fitzsimons also falls short of teaching or event hinting at such a system for automatically publishing data in a final publication format, as taught by the present invention.

It is thus respectfully believed that claim 24 is both novel and inventive over the prior art, and maintained that claim 24 is allowable.

Claim 25 defines a method for *automatically* publishing data in a final publication format, wherein the data is in the form of a newspaper, the newspaper comprising a plurality of pages, each page having a *predetermined* layout comprising a plurality of independently standing data blocks, each block having structural layout properties, the method comprising: *automatically analyzing* the data to decompose the data into a plurality of objects, the objects corresponding to the independently standing blocks, preparing a list of text and/or graphic elements for each object, determining properties of each element, recognizing the structural layout properties of the data in an original format, determining each text segment for each object, building a text block from a plurality of aligned text segments, converting each object to an internal publication format, and rendering the internal publication format in the final publication format to comprise the blocks as objects incorporating the structural layout properties.

As explained above, and defined by claim 25, the present invention introduces the novel and inventive idea of a method wherein an existing publication, such as a newspaper is *automatically* analyzed, in order to understand the separate parts of the existing document and the internal structures of those parts.

Ferrel, as described above, teaches a publication system wherein *the publication process*, carried out for the initial generation of the published document, is divided into a content aspect and a design aspect. However, Ferrel never suggests or even hints at the idea of *automatically analyzing* a newspaper, to decompose the layout of each page of the newspaper into the plurality of blocks, each block representing an

object, converting each object to an internal publication format, the format identifying the internal structure, as taught by the present invention.

Fitzsimons also falls short of teaching or event hinting at such a method for automatically publishing data that is in a newspaper format, in a final publication format, as taught by the present invention.

It is thus respectfully believed that claim is both novel and inventive over the prior art, and maintained that claim 25 is allowable.

All dependent claims are believed to be allowable as being dependent upon an allowable main claim.

All of the matters raised by the Examiner have been dealt with and are believed to have been overcome.

In view of the foregoing, it is respectfully submitted that all the claims now pending in the application are allowable over the cited reference. An early Notice of Allowance is therefore respectfully requested.

Respectfully submitted,

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